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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/057,797

10/29/2001

Arthur L. Cleary

VUT-002

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EXAMINER

HAUGLAND, SCOTT J

ART UNIT

PAPER NUMBER

3654

MAIL DATE

DELIVERY MODE

08/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/057,797	Applicant(s) CLEARY ET AL.	
	Examiner Scott Haugland	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15, 17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15, 17, and 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Wotton et al (U.S. Pat. No. 6,336,722).

Wotton et al discloses an apparatus and method for transporting a substrate 22 in a printing system including a transport belt 60 having a plurality of holes (Fig. 4; col. 5, line 43), a vacuum table 149 having a flat top surface (top of 145) and a plurality of holes 154, a vacuum source (col. 8, lines 25-30), and a porous sheet 143 for restricting fluid flow between the table and the belt. The method of claim 23 is inherent in the operation of the apparatus.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wotton et al (U.S. Pat. No. 6,336,722) in view of Ju (U.S. Patent No. 5,806,992).

Wotton et al is described above.

Wotton et al does not disclose an indicator that detects the thickness of the substrate.

Ju teaches providing an ink jet printing system for printing on a substrate with a substrate thickness detector 128, 136, 136, 140 that provides a signal used to adjust a gap between a print head and a platen so that the proper spacing is maintained between the head and substrate during printing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wotton et al with an indicator that detects the thickness of the substrate as taught by Ju to maintain the proper gap between the substrate and print head.

Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wotton et al (U.S. Pat. No. 6,336,722) in view of Yraceburu et al (U.S. Pat. No. 6,409,332).

Wotton et al is described above.

Wotton et al does not disclose the specific vacuum level claimed.

Yraceburu et al teaches providing a vacuum of 6 inches of water (approximately 0.22 psi) to a vacuum table of a paper feeding apparatus (col. 4, lines 58-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to supply a vacuum in the claimed range to the vacuum table in Wotton et al as taught by Yraceburu et al to provide sufficient adherence between the transport belt and paper being fed.

Claims 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wotton et al (U.S. Pat. No. 6,336,722).

Wotton et al is described above.

Wotton et al does not disclose the motor, CPU, and vacuum sensor recited in claims 3-6, that the transport belt is made from woven polyester or polyurethane having a thickness of about 0.09 inch or stainless steel with a thickness of about 0.008 inch (claims 7-9 and 12-13), the belt hole diameter and spacing recited in claims 10 and 11, or that the porous sheet 143 is made of sintered, porous polyethylene having a thickness of about 0.5 inch (claims 14 and 15).

With regard to claims 3-6, it would have been obvious to provide the vacuum source with a motor, vacuum sensor, and CPU to provide a consistent vacuum level, since vacuum control systems including interconnected vacuum motors, vacuum sensors, and CPU's are old and well known and official notice is hereby taken of such.

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With regard to claims 7-9 and 12-13, vacuum transport belts made of woven polyester, polyurethane, and stainless steel are well known in the art for their durability and long life. It would have been obvious to one having ordinary skill in the art to provide Wotton et al with a vacuum transport belt made of woven polyester, polyurethane, or stainless steel and having a thickness of about 0.09 inch or 0.008 inch, respectively, because of their well known durability and long life.

With regard to claims 10 and 11, it would have been a matter of obvious engineering choice to space the holes in the transport belt 1 inch apart and make them about 0.1 inch in diameter to provide sufficient suction for handling typical printing substrates.

With regard to claims 14 and 15, it would have been obvious to make the top plate 143 of sintered, porous polyethylene to reduce cost.

Response to Arguments

Applicants' arguments filed 4/18/08 have been fully considered but they are not persuasive.

Applicants argue that the top of the bottom plate 145, which corresponds to the claimed top surface of the vacuum table, is not substantially flat. However, an upper surface 157 of bottom plate 145 is flat (col. 9, lines 2-3). Wotton has the claimed feature of a vacuum table comprising a flat top surface. The claims, being open-ended, do not exclude additional features or surface on the top of the vacuum table. Even if the surfaces of posts 163 and frame 159 were considered part of the claimed top surface, it

would still be substantially flat, as claimed, since the area of the surfaces of the posts 163 and frame 159 constitute a small portion of the total area of the top surface.

Applicants argue that top plate 143 in Wotton does not perform the claimed function of restricting fluid flow between the vacuum table and transport belt. However, the top plate 143 in Wotton inherently restricts fluid flow since total area of apertures 151 in the top plate is smaller than the open area without the top plate 143 present. The disclosure of Wotton at col. 9, lines 60-67, rather than contradicting this, confirms that the top plate restricts fluid flow and suggests that the top plate provides sufficient restriction of fluid flow to mitigate the effects on the air pressure distribution at the platen surface of partial coverage of the platen surface (in which some apertures are covered while others are not). This is similar to the function of the top plate of applicants' device.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571)272-6945. The examiner can normally be reached on Mon. - Fri., 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/
Supervisory Patent Examiner, Art
Unit 3653

/SJH/
7/31/08